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Biotechnology Notes

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Biotechnology Notes, a compilation of agency activities, news events, and upcoming meetings, is prepared for members of the U.S. Department of Agriculture's (USDA) Committee on Biotechnology in Agriculture (CBA) by USDA's Office of Agricultural Biotechnology (OAB).

INSIDE USDA

ABRAC VOTES 'YEA' TO GUIDELINES

At the December 3-4 meeting of USDA's Agricultural Biotechnology Research Advisory Committee (ABRAC), members voted 11 to 2 to accept the USDA guidelines for research, as amended by the Classification/Confinement Working Group. The Working Group amended the guidelines at a meeting held December 2.

After these changes are woven into the document, a preamble will be written. In addition to providing background information, the preamble will address comments sent in by the public when the guidelines were first proposed last year. The next step will be to move the document forward for legal and policy review, with stops along the way at USDA's Office of General Council and the Office of Management and Budget.

In addition to working on the guidelines, ABRAC members heard a report by Marvin Norcross, Deputy Director for Science and Technology, Food Safety and Inspection Service (FSIS), on the notice that FSIS is preparing for publication in the *Federal Register*. It will announce criteria for determining the food safety of non-transgenic animals from transgenic animal experiments.

Norcross said that by publishing the criteria in the *Federal Register* early on he hopes to give the public "as much lead time as possible to review the standards and to offer any ideas it may have to improve upon them." He said FSIS wants both the criteria and the process for establishing the criteria to be as "transparent" to the public as possible. The ABRAC meets again February 19-21 in Rosslyn, VA. For more details, call the Office of Agricultural Biotechnology (OAB) at 703-235-4419.

A FIRST CUT AT CROSSCUT

This past spring 12 Federal agencies embarked upon a biotechnology research "crosscut" project that cut across 12 Federal departmental

boundaries. It was initiated at the request of the Office of Science and Technology Policy of the Executive Office of the President. The immediate objective was for each agency to collect and analyze all data relevant to the funding of biotechnology research. The longterm goal is to use the information to help the President prioritize and fund research projects for future budgets.

Some initial recommendations to come out of the project include: 1) the need to maintain momentum in health-directed research; 2) the need to fill gaps in promising areas such as manufacturing/bioprocessing and the environment; 3) the need to expand programs on organisms not yet tapped as subjects for research; 4) the need to strengthen research in DNA and proteins; 5) the need to expand interdisciplinary research projects; and 6) the need to increase training programs at all levels.

Federal spending for agricultural biotechnology is about 5% of the total U.S. investment in biotech research, with about 50% of these funds going toward plant science research.

The agencies that participated in the crosscut project included: the USDA, the Agency for International Development, the Department of Commerce, the Department of Defense, the Department of Energy, the Department of Health and Human Services, the Department of the Interior, the Department of Justice, the Department of Veterans Affairs, the Environmental Protection Agency, the National Aeronautics and Space Administration, and the National Science Foundation.

BIOTECH COUNCIL HEARS WISCONSIN EDUCATOR

Thomas Zinnen, director of biotechnology education at the University of Wisconsin Biotechnology Center, Madison, described the social, economic, educational, and ethical issues affecting agricultural biotechnology in that state. He noted that Wisconsin's anti-Bovine Somatotropin (BST) stand was more an issue about milk in a state known as America's dairyland than an indictment over biotechnology. Zinnen said in Wisconsin milk and other dairy products take on almost "mythical proportions."

NEWS AROUND THE NATION (AND THE WORLD)

BIOFACTS

- There are about 1,100 biotech companies in the United States; the highest concentration -- 160 -- is in the San Francisco Bay

Area, followed by New York, Boston, Washington, DC, San Diego, Los Angeles, Seattle, Texas, and North Carolina.

- Therapeutics is the most popular product under development (35%), while agricultural products capture about 4% of the primary market.
- 76% of biotech companies have fewer than 50 employees while 3% have more than 300.
- The total industry budget for research and development in 1991 was \$3.2 billion, an 18% increase over 1990. The total Federal biotech research and development budget for biotechnology is \$3.8 billion -- an 8% increase over 1990.
- The average time for a biotech patent to be issued is 26.7 months, compared to 18 months for other patents. The average for recombinant DNA patents is 36 months. The patent backlog for biotech patents has increased 60% from five years ago.

ABA DABA DABA . . . THAT'S NOT ALL FOLKS!

These days there's a lot more to EPCOT Center than meeting one's favorite old Disney characters: Shows at The Land and The Living Seas pavilions in Future World give the public an entertaining and educational look behind the scenes at scientists at work. The public can see them conducting state-of-the-art research in modern, fully-equipped laboratories, greenhouses, and even a 5.7 million gallon aquarium. Adults and children learn about biotechnology, integrated pest management, plant science, and much more as they travel by boat through greenhouses, enter hydrolators, and view the coral reefs at Seabase Alpha.

Summer internships are available for students interested in horticulture, aquaculture, entomology, plant pathology, marine science, engineering, plant nutrition, and biotechnology. Special programs and tours are also available for students in grades 3-12 and high school teachers. To learn more about these and many more exciting science activities at EPCOT Center, write to The Land/EPCOT Center, P.O. Box 10,000, Lake Buena Vista, FL 32830-1000.

UK ISSUES PAPER ON PROPOSED REGULATIONS

The United Kingdom issued a consultation paper last October on proposed new regulations for genetically modified organisms. To order a copy, please call 071-276-8353 or write to Z. Wekesa, Toxic Substances Division, Room A338, Department of the Environment, 43 Marsham St., London, SW1P 3PY. Comments are requested by January 22.

SAVING OUR SEAS

"Don't leave port without your biodegradable packages" may be the most repeated message in 1994 -- at least for men and women in the armed services. That's the year when the Maritime Pollution treaty goes into effect, prohibiting any vessel from dumping plastics into the ocean.

To help meet the target date, biotechnologists at the U.S. Army Natick Research, Development, and Engineering Center, Natick, Mass., have entered into cooperative research and development efforts with the Navy, USDA, universities, and industry to develop biodegradable products. The new packages may be made from corn and potato starch, two renewable resources. Once a prototype has been made, researchers will conduct shipboard surveys.

U.S.-EGYPTIAN REQUEST FOR RESEARCH PROPOSALS

The National Agricultural Research Project, a US-AID (Agency for International Development) initiative, is seeking proposals for collaborative research projects with U.S. and Egyptian institutions. Research areas include, but are not limited to, genetic engineering, aquaculture, animal production, animal health, and socio-economic aspects of agriculture. The deadline for submitting proposals is February 26, 1992. For more details, contact Abdul Azim El-Gazzar, Embassy of the Arab Republic of Egypt, at 202-328-0847; Fax: 202-835-0955.

DROUGHT TOLERANCE: A COMPLEX PROBLEM

In a recent study carried out in The Netherlands, researchers say biotechnology offers "few possibilities to overcome drought stress in food crops." Carried out at the request of the Netherlands' Directorate General for International Cooperation, the paper points out that drought stress is difficult to decipher because more than one gene is involved and each has a low heritability. Attempts at using RFLP markers have also been problematic since such markers are used for identifying and selecting single-gene traits.

To receive a copy of *Drought Tolerance Research: Possibilities and Constraints*, written by J. Parlevliet, A. de Haan, and J. Schellekens, write to NDGIC, Department of Plant Breeding, Agricultural University P.O. Box 386, 6700 AJ Wageningen, The Netherlands.

ISPMB SAYS TO HARMONIZE REGULATIONS

Last October the International Advisory Board of the International Congress of Plant Molecular Biology (ISPMB) adopted a statement on

harmonizing regulations for genetically modified plants. The Board said it supports a review of existing regulations taking current knowledge and analyses into account, efforts to strengthen the harmonization of regulation around the world, and efforts to expand existing efforts to communicate with the general public the principles of plant science.

NEW BIOTECH REPORT REVIEWED

Members of the U.S. House of Representative's Committee on Science, Space, and Technology met December 16 in Baltimore, MD to hear testimony on a new Congressional report on biotechnology as well as the latest thinking from various experts on research trends, commercialization, and technology transfer.

The new report, entitled "Biotechnology in a Global Economy," says that although the United States remains preeminent in biotechnology research and development, the competitiveness of products and processes may ultimately hinge on protection of intellectual property, the regulatory climate, tax policies, and fair trade practices. Copies of the report cost \$13 and may be ordered by calling 202-783-3238. The stock number is 052-003-01258-8.

FLORIDA NEWSLETTER OFF PRESS

The University of Florida has a new quarterly newsletter entitled "Biotechnology Transfer Review." To be placed on the mailing list, please call 904-462-3904.

CGIAR CENTERS TIGHTEN BELTS

At the annual meeting of the Consultative Group on International Agricultural Research held last November, donors pledged \$251 million for core funding for the 17 research centers, a decrease of \$6 million from last year. Research conducted at the Centers covers commodities that provide 75% of food energy and protein requirements in developing countries. Delegates at the meeting also endorsed a progress report on the establishment of a new CGIAR institute on forestry research to be located in the Asia-Pacific region, as well as policies on plant genetic resources, intellectual property rights, and provisions for biological safety. To learn more about CGIAR, call H. von Loesch at 202-473-8913. The FAX number is 202-334-8750.

NEW PUBLICATIONS

- The second edition of *Biotechnology Guide U.S.A.: Companies, Data and Analysis*, compiled by Mark Dibner. This 690-page directory contains information on 742 U.S. biotech firms and 142 large corporations -- more than twice as many as in the first edition. A section on U.S.-foreign strategic alliances is also included. Published by Macmillan. \$199. Call 1-800-221-2123.
- "Ex Situ Conservation of Plant Genetic Resources: Global Development and Environmental Concerns," by Joel Cohen, J. Trevor Williams, et. al. in *Science*, 23 August 1991, 253:866-872.
- *A Mutable Feast: Assuring Food Safety in the Era of Genetic Engineering*. A proposal by the Environmental Defense Fund to the Food and Drug Administration to adopt new safety and labeling rules for genetically engineered foods. Write to EDF, 257 Park Ave. South, New York, NY 10010.
- *Beyond Mendel's Garden: Biotechnology in the Service of World Agriculture*, by Gabrielle Persley. 1990. To order a copy call 1-800-528-4841; fax 602-621-3816.
- "Ag Biotechnology: The Next Green Revolution." World Bank Technical Paper #133. Fax your order to 202-477-6391.

UPCOMING MEETINGS

Jan. 8-10: Molecular Biology for Environmental Scientists and Engineers is a short course for non-scientists. Hosted by the University of Tennessee's Center For Environmental Biotechnology, Knoxville, TN. Call 615-675-9450.

Jan 12-15: Antisense Strategies. Philadelphia, PA. Sponsored by the New York Academy of Sciences. Call 212-838-0230.

Jan. 12-16: BioEast '92. Ramada Renaissance Techworld, Washington, DC. Sponsored by Genetic Engineering News, Ibex, and Bioconferences International, Inc. Call 212-996-5679. The FAX number is 212-996-1444.

Jan. 16: "Licensing Technology: An Overview of NIH's Experience and a Local Case Study" is a presentation to be given by Reid Adler, Director of Invention Development, National Institutes of Health, at the monthly breakfast meeting of the Maryland Biotechnology Network. Gaithersburg, MD. To register please call 301-762-6325.

Jan. 19-24: The Miami Bio/Technology Winter Symposium: Feeding the World in the 21st Century. Miami, Fla. For details please FAX your inquiries to 1-305-324-5665.

Feb. 6-11: The AAAS Annual Meeting. Chicago, Ill. For more information write to AAAS '92, P.O. Box 630285, Baltimore, MD 21263.

Feb. 18-19: Annual Meeting of the Industrial Biotechnology Association. Turnberry Isle, Fla. Call 202-857-0244.

Feb. 19-21: Meeting of USDA's Agricultural Biotechnology Research Advisory Committee. Rosslyn Westpark Hotel, Rosslyn, VA. Call the OAB for more details at 703-235-4419; Fax: 703-235-4429.

Feb. 20-21: International Patent Protection for Biotechnology Companies. Washington, DC. Call 508-650-4700; Fax: 508-653-1627.

Mar. 11-12: Agro-Industrial and Forestry Research and Technology Days. Brussels, Belgium. Sponsored by the Commission of the European Communities, Directorate General XII. Call 32-2-647-8780. The FAX number is 32-2-640-6697.

Biotechnology Notes is written by Marti Asner, public affairs specialist in USDA's Office of Agricultural Biotechnology. Suggestions for future issues are always appreciated and may be sent to USDA/OAB, Room 1001, Rosslyn Plaza East, 14th and Independence Ave., S.W., Washington, DC 20250-2200. Phone: 703-235-4419; Fax: 703-235-4429.

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